

A METHOD FOR GENERATING HYPERMUTABLE ORGANISMS

ABSTRACT

Blockade of mismatch repair in a plant can lead to hypermutation and a new genotype and/or phenotype. One approach used to generate hypermutable plants is through the expression of dominant negative alleles of mismatch repair genes in transgenic plants or derived cells. By introducing these genes into cells and transgenic plants, new cell lines and plant varieties with novel and useful properties can be prepared more efficiently than by relying on the natural rate of mutation. Moreover, methods to inhibit the expression and activity of endogenous plant MMR genes and their encoded products are also useful to generate hypermutable plants.